II. REJECTION OF CLAIMS 1-5, 7, AND 8 UNDER 35 U.S.C. § 103(A)

Claims 1-5, 7, and 8 stand rejected as being unpatentable under 35 U.S.C. § 103(a) over Pfleger (U.S. Patent No. 5,588,468) in view of Kleykamp (U.S. Patent No. 4,312,383). Applicants respectfully submit that the rejection of claims 1-5, 7, and 8 under 35 U.S.C. § 103(a) is improper because there is no suggestion or motivation in the prior art to combine the cited references.

"Patent examiners carry the responsibility of making sure that the standard of patentability enunciated by the Supreme Court and by the Congress is applied in each and every case." MPEP § 2141 (emphasis in original).

> To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all of the claim limitations.

MPEP § 2143. Applicants submit that that there is no suggestion or motivation to combine the teachings of Pfleger and Kleykamp.

Independent claim 1 recites: "A pipe . . . comprising a smooth inner tube (1) based on a fluorinated thermoplastic material, a corrugated outer tube (2) which is in contact with the inner tube via the inside peaks (3) of its corrugations and which is made of a polyamide-based thermoplastic material, and means for connecting together the outer tube and the inner tube." (emphasis added). Applicants respectfully submit that there is no suggestion or motivation to combine the teachings of Pfleger and Kleykamp to achieve the structure of the present invention as recited in claim 1.

Pfleger discloses a pipe for transporting automobile coolant with a corrugated inner tube and a corrugated outer tube. Pfleger does not disclose a smooth inner tube as positively recited in claim 1. However, the Examiner asserts that one of ordinary skill in the art would be motivated by Kleykamp to employ a smooth inner tube in order to form a tube for transporting fluids that does not present the problems of fluid foaming, noise, or head loss. The tubing of Pfleger is designed to avoid the disadvantages associated with having low flexibility in a coolant conduit. As indicated in Applicants' Specification, corrugated pipes are much easier to shape, resulting in increased flexibility. Pfleger corroborates these statements at Col. 4, lines 20-24 and states that "[t]he conduits according to the invention are substantially more flexible than the reinforced rubber conduits of the prior art [and] [e]xperience has shown that the bending of smooth, i.e., non-corrugated, cylindrical conduits, lines, tubes, or pipes made of solid polymeric materials causes kinking at relatively large diameters." Col. 4, lines 14-19. Further, it is an object of Pfleger "to create a coolant conduit that does not have the forenamed disadvantage[]" of low flexibility. Col. 1, lines 55, 65-67. Pfleger therefore teaches away from the claimed invention because replacing the inner corrugated layer in Pfleger with an inner smooth layer as in Kleykamp would reduce the flexibility of the Pfleger pipe. One of ordinary skill in the art would not be motivated to modify Pfleger to include a smooth pipe because doing so would defeat a stated objective of Pfleger.

Claims 2-5, 7, and 8 depend from claim 1 directly and therefore contain all the limitations thereof. Accordingly, for at least the same reasons given above in connection with claim 1, Applicants respectfully submit that the rejection is improper and request reconsideration and withdrawal of the rejections.

III. REJECTION OF CLAIMS 1-8 UNDER 35 U.S.C. § 103(A)

Claims 1-8 stand rejected as being unpatentable under 35 U.S.C. § 103(a) over Pfleger in view of Blasko et al. (U.S. Patent No. 6,776,195) and Kleykamp. Applicants respectfully submit that the rejection of claims 1-8 under 35 U.S.C. § 103(a) is improper because there is no suggestion or motivation in the prior art to combine the cited references.

Because the combination of Blasko et al. and Pfleger fails to address that Pfleger discloses a pipe for transporting automobile coolant with a corrugated inner tube and a corrugated outer tube, not a smooth inner tube as positively recited in claim 1, Applicants rely on the arguments asserted above in connection with the rejection of claims 1-5, 7, and 8 based on Pfleger in view of Kleykamp.

Claims 2-8 depend from claim 1 directly and therefore contain all the limitations thereof. Accordingly, for at least the same reasons given above in connection with claim 1, Applicants respectfully submit that the rejection is improper and request reconsideration and withdrawal of the rejections.

IV. REJECTION OF CLAIMS 1-5, 7, AND 8 UNDER 35 U.S.C. § 103(A)

Claims 1-5, 7, and 8 stand rejected as being unpatentable under 35 U.S.C. § 103(a) over Kleykamp in view of Pfleger. Applicants respectfully submit that the rejection of claims 1-5, 7, and 8 under 35 U.S.C. § 103(a) is improper because there is no suggestion or motivation in the prior art to combine the cited references, and further, the combination of Kleykamp and Pfleger fails to have a reasonable expectation of success.

Kleykamp discloses a pipe with a smooth inner tube and a corrugated outer tube formed from the same or different polymeric materials. However, Kleykamp does not disclose that the outer tube be "made of a polyamide-based thermoplastic material" or that the inner tube be

"based on a fluorinated thermoplastic material" as positively recited in claim 1. However, the Examiner asserts that one of ordinary skill in the art would be motivated by Pfleger to employ an outer layer of a polyamide and an inner layer of a fluorinated thermoplastic in order to provide a corrugated pipe having an external corrugated layer that is corrosion-resistant and burst resistant, and a smooth inner bore that is chemically resistant to fluid that is transported through it.

The combination of materials in Pfleger is based on a structure in which both the inner and outer layers are corrugated, such that the difference in bursting pressure resistance of the outer and inner layers is not problematic. However, when a smooth inner layer and corrugated outer layer are employed, the differences between the bursting pressure resistance of the inner and outer layers, with the resistance of the outer layer being higher, can cause the inner layer to deform under fluid pressure and expand against the outer corrugated layer. Accordingly, the likely deformation and expansion of the smooth inner layer against the corrugated outer layer, resulting in the increased potential for bursting of the inner layer, eliminates any reasonable expectation of success.

Moreover, Kleykamp indicates that the construction of a pipe comprising a corrugated tube and smooth tube is difficult, and therefore, Kleykamp includes metallic particles in the polymeric material of the inner tube to further the bonding of the inner tube to the outer tube during the manufacturing of the pipe. The metallic particles limit the possible movements of the molecular chains inside the material of the inner layer to reduce the bursting resistance of the pipe. By requiring the use of metal particles within the polymeric material of the inner tube and noting the difficulty of construction of a pipe comprising a corrugated tube and smooth tube, Kleykamp teaches away from the inventive combination of materials that do not include metallic particles in a pipe comprising both a corrugated tube and smooth tube. Under MPEP § 2145, a

prior art reference that teaches away from the claimed invention is a significant factor to be considered in determining obviousness. Moreover, Applicants submit that one of ordinary skill in the art would be more likely to look to U.S. Patent No. 3,538,209 ("Hegler") cited in Kleykamp to identify potential materials for a pipe having a smooth inner layer and a corrugated outer layer because Hegler—unlike Pfleger—discloses a pipe having a smooth layer. Hegler lists a number of materials for the smooth inner pipe, but, notably, fluorinated thermoplastic material is not one of them.

Claims 2-5, 7, and 8 depend from claim 1, either directly or indirectly, and therefore contain all the limitations thereof. Accordingly, for at least the same reasons given above in connection with claim 1, Applicants respectfully submit that the rejection is improper and request reconsideration and withdrawal of the rejections.

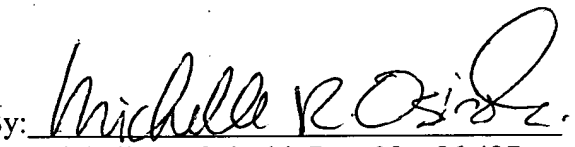
Because there is no suggestion or motivation to combine the teachings of Pfleger and Kleykamp, as well as no reasonable expectation of success when combining Pfleger and Kleykamp, Applicants respectfully submit that the rejection of independent claim 1 under 35 U.S.C. § 103(a) is improper. Accordingly, Applicants request that the rejection be withdrawn. Further, because each of claims 2-8 depend from independent claim 1, Applicants submit that the rejection of claims 2-8 under 35 U.S.C. § 103(a) is improper and request that the rejection of claims 2-8 be withdrawn.

V. CONCLUSION

For the above cited reasons, all of the claims presently pending in this application are believed to be allowable. If the Examiner has any further questions or concerns, the Examiner is invited to contact the Applicant's undersigned attorney.

Respectfully submitted,

Date: June 21, 2005

By: 

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